Take Test: Quiz 4.6

Test Information

Description

Instructions

Multiple Attempts This test allows multiple attempts.

Force Completion This test can be saved and resumed later.

QUESTION 1 **1 points** Saved

Which of the following describes the characteristic equation of a generic second-order system?

- $0 = \omega_n s^2 + 2\zeta\omega_n s + 1$
- $0 = s^2 + 2\zeta\omega_n s + \omega_n^2$
- $0 = s^2 + \omega_n^2 + 2\zeta\omega_n$

Question Completion Status:

QUESTION 2 **1 points** Saved

Which of the following types of second order systems have step responses that are oscillatory? More than one answer

may be correct.

- [x] Undamped system
- [x] Underdamped system
- [ ] Overdamped system
- [ ] Critically damped system

QUESTION 3

1 points Saved

For a transfer function $G(s) = \frac{4}{s^2 + 4}$, which of the following characterizations are correct?

- ( ) Undamped, with $\zeta = 2, \omega_n = 0$
- ( ) Underdamped, with $\zeta = 0, \omega_n = 2$
- (•) Undamped, with $\zeta = 0, \omega_n = 2$
- ( ) Critically damped, with $\zeta = 0, \omega_n = 4$

QUESTION 4

1 points Saved

True or false? If both poles of a second-order system are located on the real line, the output response will be oscillatory and damped.

- ( ) True
- (•) False

Click Save and Submit to save and submit. Click Save All Answers to save all answers.

Save All Answers Save and Submit